SECTION 2.2

ENERGY AND ECONOMIC DEVELOPMENT

INTRODUCTION

Policies that promote a secure, competitive, and reasonably priced energy supply will help attract, retain, and expand businesses in New York. These include policies that support reducing energy costs to consumers, improving the reliability of the State's energy supplier and infrastructures, and developing energy-related businesses in New York. In addition, promoting cost-effective energy-efficiency improvements, indigenous and renewable energy resource development, and alternative-fueled vehicles, stimulates in-State job creation, particularly when these technologies or their components are manufactured in New York. A secure and reliable energy supply will provide businesses with the confidence necessary to invest in New York. The increase in business profitability and consumer purchasing power that results from lower energy costs will further stimulate business investment, consumer spending, and employment growth within the State.

ENERGY SUPPLY

With the growth in electricity demand that has occurred over the last five years, adequate and reliable energy supplies are critical to the State's continuing economic prosperity. New York has added 802,000 private sector jobs since 1995, leading all other Northern industrialized states in the rate of job creation. From 1999 to 2000, the State ranked tenth among all states for private sector job growth. Continuing this economic growth will depend, in part, on the State securing additional energy resources, including electricity generation and infrastructure improvements.

The State has taken a number of actions to ensure that electricity supply is adequate to meet demand. In the near-term, the New York Independent System Operator (NYISO) has implemented the Emergency Demand Response and Day-Ahead Demand Bidding programs, the New York Power Authority (NYPA) has installed new generators in the metropolitan New York City area, and the New York State Energy Research and Development Authority (NYSERDA) and utilities have implemented new programs to assist businesses in reducing demand and becoming more energy-efficient. In the long-term, the siting of new base load plants will help ensure reliability and support more stable pricing. In addition to new generation resources, the State is promoting greater investment in energy efficiency, indigenous and renewable resources, and distributed generation.

ROLE OF ENERGY PRICES IN BUSINESS LOCATION AND EXPANSION

Geographic variation in energy prices gives businesses some degree of control over the prices they pay, but only to the extent that they are able to easily relocate. As a result, energy prices tend to be important factors in business location and expansion decisions, particularly for energy-intensive businesses. Other considerations of varying importance, depending on the type of business, include availability and reliability of energy supply, taxes, availability of raw materials and other process inputs, access to capital, proximity to transportation systems and markets, availability of a skilled workforce, labor costs, government regulation, and environmental policies.

In a national survey of businesses that primarily included manufacturers, 81% of respondents considered energy cost and availability to be either an important or very important site-selection factor.[1] Given the relative cost of energy in New York, manufacturers in the State regard energy costs as being even more significant than is indicated by the national survey. For most businesses in New York, the cost of energy represents less than 5% of total product cost; however, energy prices can have a substantial impact on profits. In many industries, profit margins are extremely thin, representing less than 5% of gross sales.[2] Reducing energy costs, therefore, can have a substantial effect on a business' profitability. Moreover, facilities in New York compete with other companies within the State and with facilities within the same company located in states with lower operating costs. In some cases, same-company facilities compete for additional capacity and jobs; in other cases, they compete to remain in operation. Corporations routinely favor locations that have the greatest profit potential. Less profitable facilities will, at best, not be expanded. At worst, they will be closed, with a resultant loss of jobs.

ECONOMIC DEVELOPMENT PROGRAMS

To overcome relatively higher energy costs, various programs, policies, and initiatives have been developed to attract and retain businesses in the State. Both of the State's public power authorities, the Long Island Power Authority (LIPA) and NYPA,

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Area Development, Sites and Facility Planning, "Corporate Survey," December, 1997.

[2] Glen Weisbrod (Hagler Bailly Consulting, Inc.) and Howard Friedman (DynCorp), *Economic Competitiveness Impacts of Utility Rates and Programs*, April 1, 1996, p.8.

electricity to former tenants of the World Trade Center and other businesses located in, or intending to locate in, the Liberty Zone and Resurgence Zone, as designated by the legislation. This power is expected to save businesses more than $6 million annually.

New York State Energy Research and Development Authority

NYSERDA is a public benefit corporation created by the State Legislature in 1975 It provides technical and financial assistance for the development and deployment of innovative technologies that improve energy efficiency and reduce energy-related environmental impacts for businesses, municipalities, and residents.

In January 1998, the New York State Public Service Commission (PSC) designated NYSERDA the administrator of the public benefits program. This program, known as **New York Energy $mart℠**, supports activities that are not expected to be adequately carried out during the transition to a more competitive electricity market. Activities supported by the public benefits program include energy efficiency deployment, low-income assistance programs, research and development, and environmental monitoring and protection. A total of $174 million was made available to NYSERDA to develop and implement a variety of programs for the initial three-year period from July 1, 1998 to June 30, 2001. In January 2001, the PSC extended and increased the amount of public benefits program funding to approximately $150 million per year through June 2006. The extended programs continue to address market barriers, but will also expand peak load reduction and price-sensitive load initiatives, including non-electric energy efficiency measures to promote fuel-switching, and expand the statewide coverage of the programs.

NYSERDA's research, development, and demonstration (RD&D) program focuses on developing high-value-added energy and environmental products, addressing energy-related environmental concerns when there is insufficient private-sector incentive to do so, assisting customers, and providing objective technical analysis. The program has five main areas: Industry, Buildings, Energy Resources, Environment, and Transportation and Power Systems. Funding for this program reaches about $16.5 million per year and funds approximately 150 projects each year with businesses, municipalities, institutions, and universities. Since 1991, NYSERDA's RD&D program has stimulated new product sales of $200 million for New York companies, created 1,174 permanent jobs, developed 141 new products, processes, or services for commercial use, and leveraged nearly $2 of funding from outside sources for every dollar invested by NYSERDA.

NYSERDA's energy efficiency deployment program complements its RD&D program by aiding in the commercialization of new technologies and encouraging their use. The program targets five areas: small business, institutions and government, residential, low-income, and vehicle fleets. It focuses on stimulating markets and promoting competition for energy-efficient and environmentally-clean products, removing barriers to market adoption of proven technologies and practices, and building manufacturing and sales infrastructure to make energy efficiency products available to customers. Value-added services and technical economic assistance are provided to help small customers stay competitive. Since 1991, NYSERDA's programs have saved $277 million in energy and other costs for New York's businesses, municipalities, and institutions.

NYSERDA's newly created Economic Development Program strives to improve the State's business climate through strategic partnerships and product development. The Economic Development Program provides assistance to companies concerned with energy and environmental efficiency, innovative product development, and product commercialization to help these companies create, enhance, and retain jobs. Using both internal and external sources of funding to enhance its efforts, NYSERDA works to forge strategic partnerships with a variety of organizations (both public and private) to be able to provide expertise in marketing, financing, and business development to its constituents. The types of assistance pursued by NYSERDA include federal and State grants, loans, bond financing, venture capital, and technical services.

In August 2001, NYSERDA announced the creation of the Saratoga Energy Technology Park, specifically devoted to promoting the development of new, clean energy technologies. NYSERDA, working jointly with the University at Albany and the Saratoga Economic Development Corporation (SEDC), hopes to attract between 1,000 and 1,500 jobs to the Capital Region when emerging, environmentally-friendly energy companies take advantage of the park's resources.

NYSERDA is forging other partnerships with many public and private organizations to work on the following projects:

1 Promoting NYSERDA's core programs to support the State's revitalization efforts in the Niagara Falls area. This has led to the investment of $4 million in various energy and environmental programs and projects.

2. Working to establish partnerships with local businesses, government, and developers to build wind farms in Central New York. Over 40 MW of wind power

generating capacity has been installed in the Towns of Fenner and Madison.

3. Examining the potential development of Power Quality Parks. Such parks, if developed, will feature industrial sites with reliable power sources to help attract new businesses.

4. Working with the Rensselaer Polytechnic Institute (RPI) and its Venture B Series Program to find venture capital for businesses. NYSERDA is also a member of the Tech Valley Angel Network (TVAN) as a partner in this program. NYSERDA serves as a link between entrepreneurs and investors in northeastern New York to facilitate access to venture capital.

Department of Public Service

Staff of the Department of Public Service (DPS) assist businesses in learning about economic development programs, resolving disputes between businesses and utilities about economic development issues, working with State and local government in retaining, attracting and expanding businesses, and participating in the Power For Jobs program. DPS staff have participated with parties in several recent utility restructuring, rate, and merger proceedings to improve the utilities' ability to assist in economic development. For example, as a result of the PSC's decision in a recent Central Hudson Gas & Electric Corporation case, a collaborative effort among the utility, DPS, Empire State Development, State and local governments, and other interested parties has been initiated to design new, more effective economic development programs, including electricity discounts, suited to the needs of the utility's customers.

The PSC's electricity cost and pricing policies are changing to reflect the restructuring of investor-owned utilities, the transition to competitive markets, and the need for more service unbundling. These policies are pointing in the long-term to separating the delivery function from commodity sales. Such policies will be especially beneficial to businesses by reducing delivery costs of electricity, and facilitating the ability of businesses to shop for electricity. During the transition to competitive markets, there is a continuing need to maintain economic development incentives and discounts that will ensure that the State will have the ability to retain, expand, and attract businesses.

government and utility-sponsored programs. Even though a competitive electricity market is expected to result in lower prices, New York's energy prices may remain somewhat higher than those of most other states in the short-term. Therefore, effective energy-related economic development programs for businesses will continue to be necessary to help preserve and expand the State's economic base.

ECONOMIC DEVELOPMENT POTENTIAL OF REDUCING ENERGY COSTS

Reducing energy costs will make the State's businesses and industries more competitive with other states and regions of the country. In addition, lower energy costs will position New York to attract new businesses and retain and expand existing businesses. Moreover, lower energy costs will increase business profitability and consumer purchasing power, which, in turn, will stimulate business investment and consumer spending and contribute to continued job growth. An economic analysis, using the REMI statewide economic model, demonstrates the importance of energy cost reductions as a means to stimulate economic growth.[5] Important indicators of economic development potential include: *gross output*, or total sales value of goods and services produced, which is an indicator of total economic activity in the State; *personal income*, which measures the aggregate wages, salaries, and proprietors' income earned by in-State workers; and *employment*, which is the number of in-State jobs. The analysis reflects the expected effects on economic activity of increased business profits and consumer spending that result from lower energy costs. The analysis estimates that a permanent energy price reduction of $100 million per year would stimulate, over a ten-year period, the development of approximately 1,600 jobs in New York, increase the State's gross output of goods and services by about $119 million, and increase personal income by about $105 million. Incremental output of goods and services, personal income, and jobs created as a result of lower energy prices would generally be sustained over time because the incremental business profits and consumer purchasing power would be available in each subsequent year, resulting in a continued higher level of business investment and consumer spending.

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[5] The REMI Economic and Demographic Forecasting Model, developed by Regional Economic Models, Inc. of Amherst, MA., is a 53-sector dynamic structural model of the New York State economy that is linked to a U.S. economic model. The model simulates inter-industry transactions and trading flows into and out of the State, based on the costs of doing business. The relative cost of doing business is built up for each industry based on wages, costs of intermediate inputs, fuel costs, and taxes.

EMPLOYMENT IMPACTS OF ENERGY EFFICIENCY IMPROVEMENTS

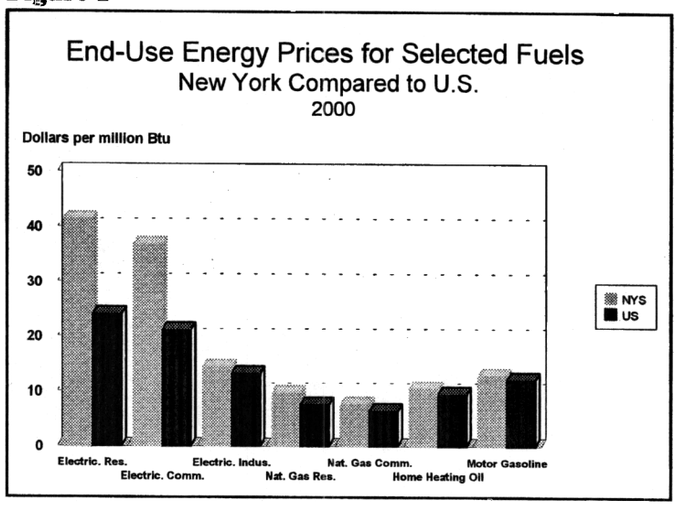
While the State is the fourth-largest energy user among all states, only an estimated 11% of New York's total end-use energy requirements are met from indigenous resources, of which 55% is hydroelectric power and 41% is from bio-fuels. In 2000, New Yorkers spent $38 billion on energy, consisting of $15.7 billion for electricity, $5.9 billion for natural gas, $16.3 billion for petroleum products, and $0.1 billion for coal. Petroleum products include distillate and residual fuel oil, motor gasoline, aviation fuels, kerosene, and propane.

Because New York imports most of its primary energy supplies from other states and foreign sources, a large portion of the $38 billion annual energy expenditure flows out of the State to pay for imported energy. While imported energy supplies contribute to some economic activity within the State, investment in cost-effective energy efficiency reduces economic leakage, as more dollars are retained in the State, thereby increasing discretionary income. In addition to the jobs created by in-State spending of energy savings, jobs are created by the purchase and installation of new equipment, to the extent that the equipment or its components are manufactured in New York, purchased from in-State suppliers, and installed by in-State labor. The precise number of jobs created is site- and industry-specific and is sensitive to business and consumer spending patterns, payback periods, and useful life-spans of the technologies installed.

NEW YORK'S ENERGY PRICES COMPARED TO U.S. AVERAGES

This section compares New York's retail energy prices to U.S. averages. The energy prices analyzed include electricity, natural gas, heating oil, gasoline, and diesel fuel. Figure 1 compares New York's end-use energy prices for selected fuels to U.S. average prices for comparable fuels in 2000. New York's retail

Figure 1



Electricity

Figure 3 compares New York's average electricity price in 2000 with the average electricity prices in eleven other states. With the advent of restructuring, data to perform a complete analysis of the various components of electric prices are no longer available. This is because certain market participants are no longer required to file data with the Federal Energy Regulatory Commission. Nevertheless, the primary factors that contribute to New York's high electricity prices relative to other states are well known. As documented in the 1998 State Energy Plan, these factors include: higher State and local taxes on electricity and on equipment and property used to generate, transmit, and distribute electricity; the cost of power purchased by utilities under contract (as mandated by State and federal laws); the costs associated with two large nuclear projects; and the higher costs, in wages and operations and maintenance, of doing business in New York.

The State has taken steps to address each of these factors:

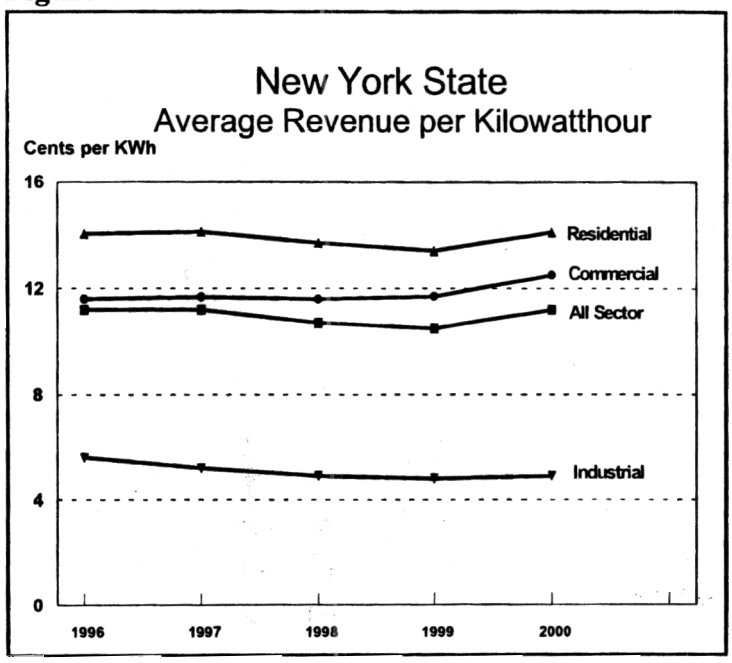
In addition to the State tax reform initiatives described earlier, the new owners of divested utility generating plants have in many cases negotiated reductions in local property taxes. These lower tax levels can be expected to be passed along to customers in the form of lower wholesale prices, as generators lower the prices charged for their output.

Since the repeal in 1992 of the mandatory minimum six-cent per kilowatt-hour purchase price for power produced by cogenerators and other qualifying facilities, utilities have generally lowered the costs for purchased power to market-based levels. In addition, some utilities have been successful in renegotiating long-term power purchase contracts to obtain a lower price. Still, the legacy of the six-cent law and contract prices based on administratively-determined long-run avoided costs continue to be a major cost driver in New York's electricity prices.

The State has been more successful in reducing the costs associated with the Shoreham and Nine Mile Point 2 nuclear plants. LIPA, as part of the takeover of the electric system on Long Island, refinanced the debt associated with Shoreham, decreasing rates significantly on Long Island. More recently, nearly all of the remaining debt associated with the Nine Mile Point 2 plant has been eliminated in the process of the sale of that plant to an independent firm, Constellation Energy.

Finally, after more than a decade of price caps and other incentive plans to reduce rates, utilities have significantly reduced wage, operating and maintenance costs.

Figure 4



As shown in Figure 4, New York's statewide electricity price (average revenue across all sectors) fell 6.3% from 1996 to 1999, a direct result of the above-described efforts and rate restructuring orders issued by the PSC. Despite the reduction in rates for the portion of utility services that remain regulated after restructuring, the dramatic increase in natural gas prices starting in the second quarter of 2000, and persisting into the second quarter of 2001, had the effect of increasing retail electricity prices, particularly downstate, during that time period.[6] In particular, customers of Consolidated Edison and Orange and Rockland endured steep increases in the price for power, associated with natural gas-fired generation setting the wholesale market clearing price for power. Because these utilities purchase much of their power directly in short-term markets, and pass fuel and purchased-power costs through to customers every month, bills for electric service from these utilities increased by about 16% in 2000. Although most of the other utilities in the State had capped rates in 2000, the increase in downstate bills was enough to cause statewide average retail prices to increase approximately 6%, temporarily reversing the gains of the previous three years.

Utilities in the other states used for comparison either are less dependent on natural gas and oil for electricity generation, or had to wait for the outcome of regulatory proceedings before passing through increased power costs to their customers. Therefore,

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[6] In a study presented to the New York ISO, the ISO's market advisor concluded that the increase in natural gas and oil prices and the sustained outage of the Indian Point 2 nuclear plant in Buchanan were the primary factors in the run-up in wholesale electricity prices in 2000 (New York Market Advisor Annual Report on the New York Electric Markets for Calendar Year 2000).

the gap between New York electric prices and the other states compared widened in 2000.[7]

Since the second quarter of 2001, natural gas prices have dropped to previous levels. Electric prices have also declined, and the most recent bills for Consolidated Edison and Orange and Rockland customers have moderated significantly from 2000 levels.[8] In addition, in 2001, the PSC significantly lowered distribution rates for customers of Consolidated Edison, Rochester Gas & Electric, and Central Hudson Gas and Electric. Niagara Mohawk's annual distribution revenues were reduced by $152 million (largely offsetting earlier approved increases in commodity prices) with the approval of its merger with National Grid and New York State Electric and Gas' distribution revenues were reduced by $205 million with the approval of its merger with Rochester Gas & Electric. The trend in lower distribution rates, with decreasing, but perhaps volatile, commodity prices, is expected to continue in the future (see the Electricity Resource Assessment).

Residential Natural Gas

New York's average natural gas price, after taxes, for residential customers in 2000 was $10.51, lower than Connecticut and Florida but higher than the other states studied, as shown in Figure 5. The wellhead price component for natural gas is identical for all states because this price is determined by North American market conditions rather than by actual production costs.

The largest price component is "processing, transportation, and distribution." *Processing* refers to any cleaning or liquid removal that occurs after the natural gas is removed from the wellhead. *Transportation* refers to moving the natural gas from the wellhead to the entry point of the local distribution carrier's network. *Distribution* refers to moving the natural gas through the local distribution carrier's network and delivering the product to end-users. Besides the direct costs of installing, maintaining, and repairing the natural gas distribution system itself (*e.g.*, materials, wages, workers' compensation

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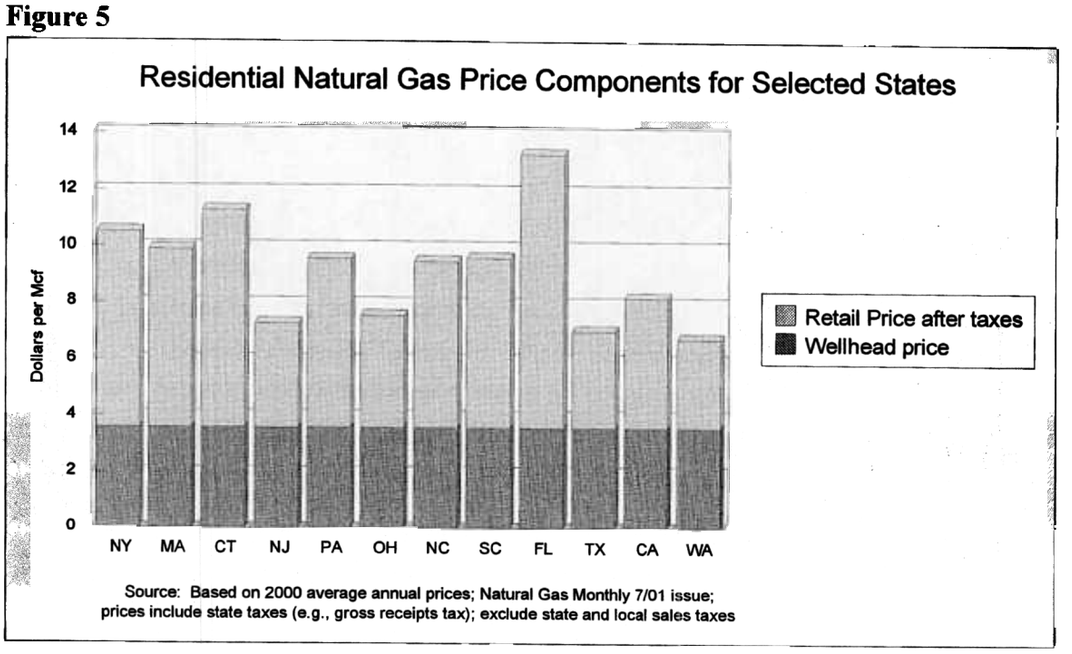
[7] A comparison of New York's average price in the first seven months of 2001 to that of MA, PA, FL, TX and CA shows the difference in prices to be much reduced from what it was in 2000, as utilities in these other states gained approval to increase retail rates in response to increased power costs.

[8] For example, the October 2001 bill for the typical Consolidated Edison residential customer was $50.87 or 17.0 cents per kWh, compared to $56.88 or 19.0 cents per kWh in October 2000.

premiums, etc.), distribution costs include, for example, local property taxes, income taxes, and return on equity.

Figure 5



Many other states assess taxes on residential natural gas sales that are comparable to New York's. While New York does not collect general sales tax on residential natural gas sales, the residential retail price does include a GRT of 2.5%, equivalent to about 21 cents per thousand cubic feet (Mcf). Tax legislation enacted in 1997 reduced the GRT on residential natural gas from 3.5% to 2.5%. This tax will be completely phased-out by January 1, 2005, and is expected to improve New York's price position relative to other states.

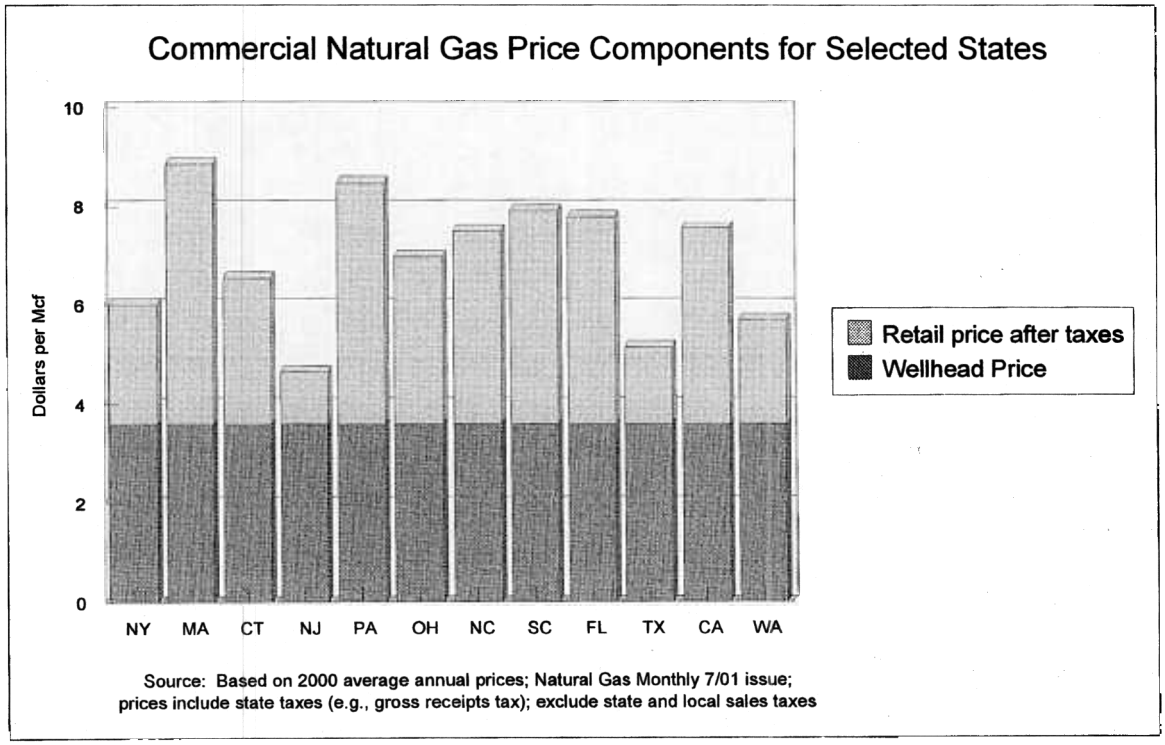
New York's average price for residential natural gas is higher than the average price of the other states studied, primarily due to the processing, transportation, and distribution components of the price. Distribution costs, which comprise the major portion of this component, are higher in New York than in most other states. This is largely due to the higher costs of installing, maintaining, and repairing natural gas distribution facilities in the densely populated New York City metropolitan region. For example, the low-cost trenching techniques used for most natural gas systems cannot be used in New York City. Distribution costs in the downstate region are further increased by programs to replace

aging cast iron natural gas pipes. New York's higher natural gas price compared to states to its south and west is also partially due to the State's location near the end of the interstate pipeline distribution system.

Commercial Natural Gas

The relationship of New York's average commercial natural gas price to those of other states studied is similar in most respects to that of the residential natural gas price, as shown in Figure 6. In 2000, New York's average price was $6.00 per Mcf which is lower than in eight of the eleven states studied. Only Texas, Washington, and New Jersey had lower prices. Many other states assess taxes on commercial natural gas sales that are comparable to New York's. New York's retail commercial gas price includes a GRT of 2.5% (about 15 cents per Mcf), as well as State sales tax of 4% (about 24 cents per Mcf). As with residential natural gas sales, the differences in average prices from state to state are largely due to variation in distribution costs.

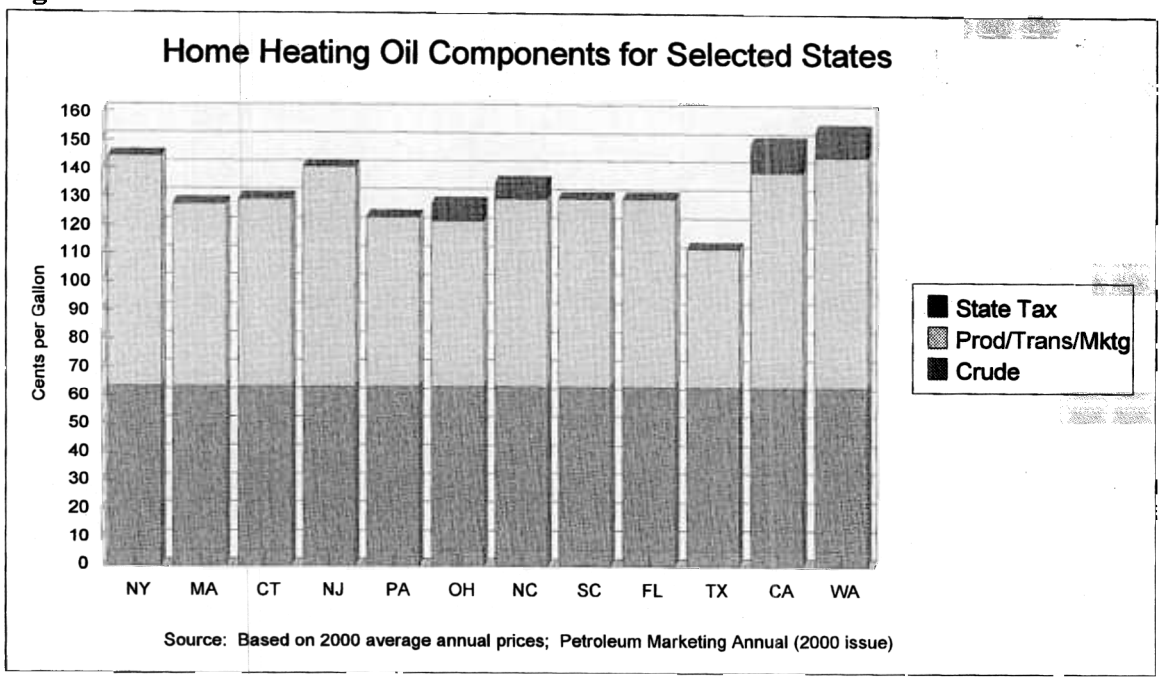
Figure 6



Home Heating Oil

New York's average price for home heating oil in 2000 was $1.44 per gallon, which was three to 32 cents higher than the average price in most of the other states studied. Home heating oil prices have increased in all states for which data is available. The two West Coast states had average prices higher than New York, as shown in Figure 7. Of the states studied, California, North Carolina, Ohio, and Washington tax the use of home heating oil; New York does not. New York's higher-than-the-national-average home heating oil price is largely a result of higher costs of doing business, particularly downstate, which include higher local property taxes, wages, workers' compensation premiums, and State income taxes.

Figure 7

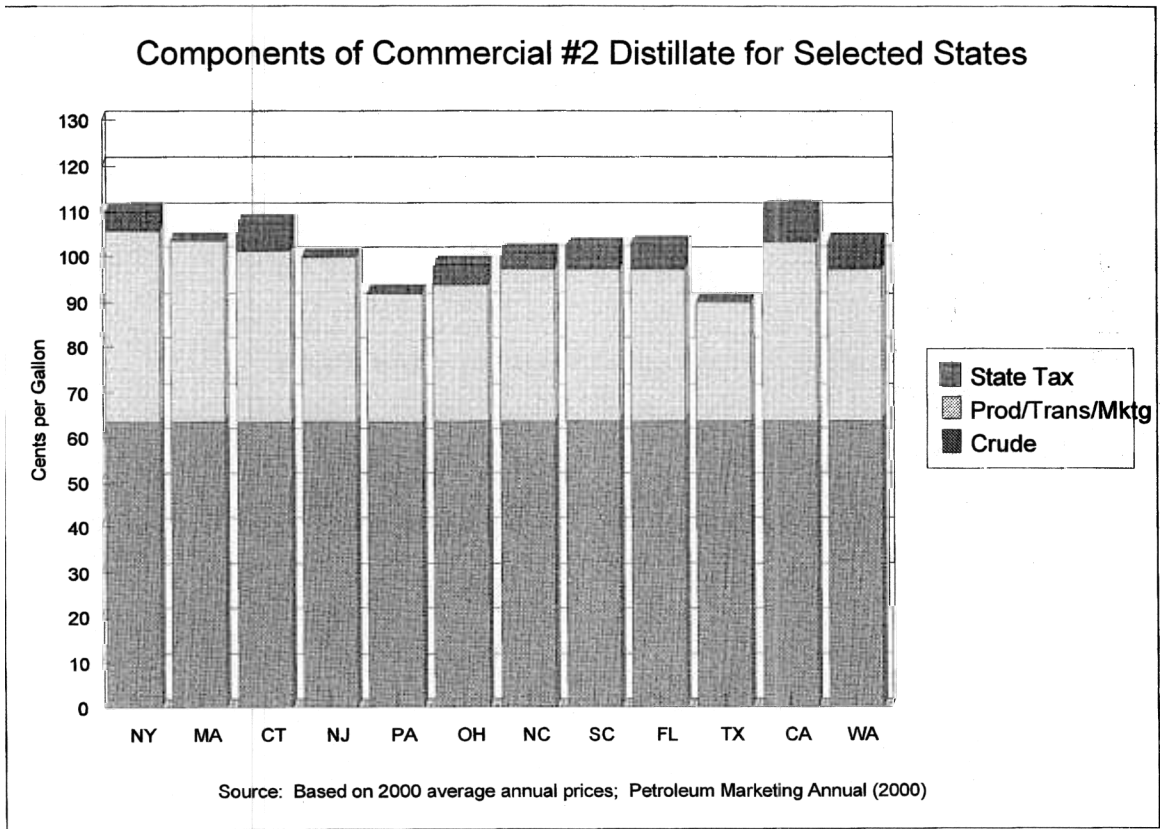


Commercial Distillate Oil

New York's 2000 average distillate oil retail price for commercial customers was $1.10 per gallon, which was two to 22% higher than the average price in each of the other states studied, except California, as shown in Figure 8. The states with average prices closest to New York's were California, which was virtually equal, and Connecticut, which was three cents per gallon lower. Most of the studied states' average prices were two to 22

cents per gallon lower than New York's. Many of the states studied, like New York, collect some sales tax on commercial distillate oil, but no other state collects a PBT or other oil tax comparable to New York's. The PBT increases New York's average commercial distillate oil price by approximately 7.3 cents per gallon.

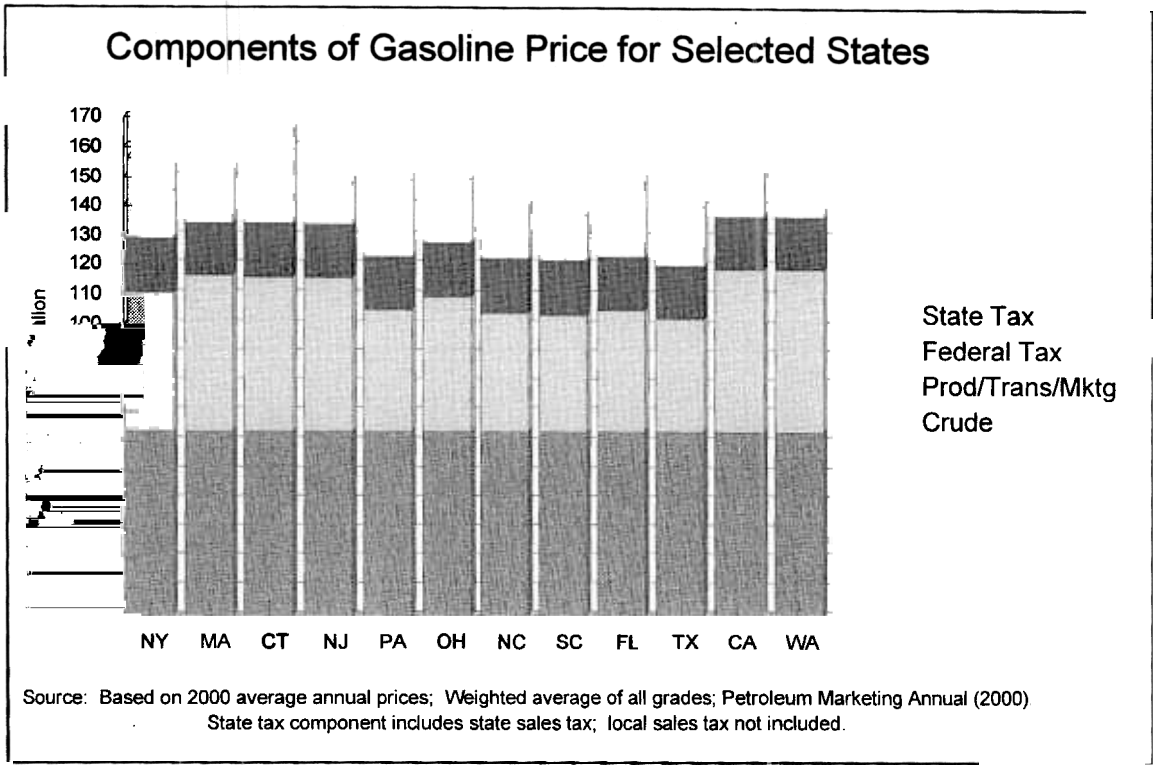
Figure 8



Gasoline

New York's 2000 average gasoline price for all grades of gasoline was $1.56 per gallon (excluding local sales taxes), as shown in Figure 9. This price was higher than that in seven of the states studied, but it was lower than Connecticut, California, and Washington. Connecticut's average price was 10 cents per gallon higher than New York's, due primarily to higher state taxes. Washington's average price was higher than New York's, due primarily to the longer transport distance to retail outlets. Average gasoline prices in New Jersey and South Carolina were lower than in New York as a result of lower state taxes. Average gasoline prices in the remaining states studied were between six and 18 cents per gallon less than in New York.

Figure 9



Source: Based on 2000 average annual prices; Weighted average of all grades; Petroleum Marketing Annual (2000)
State tax component includes state sales tax; local sales tax not included.

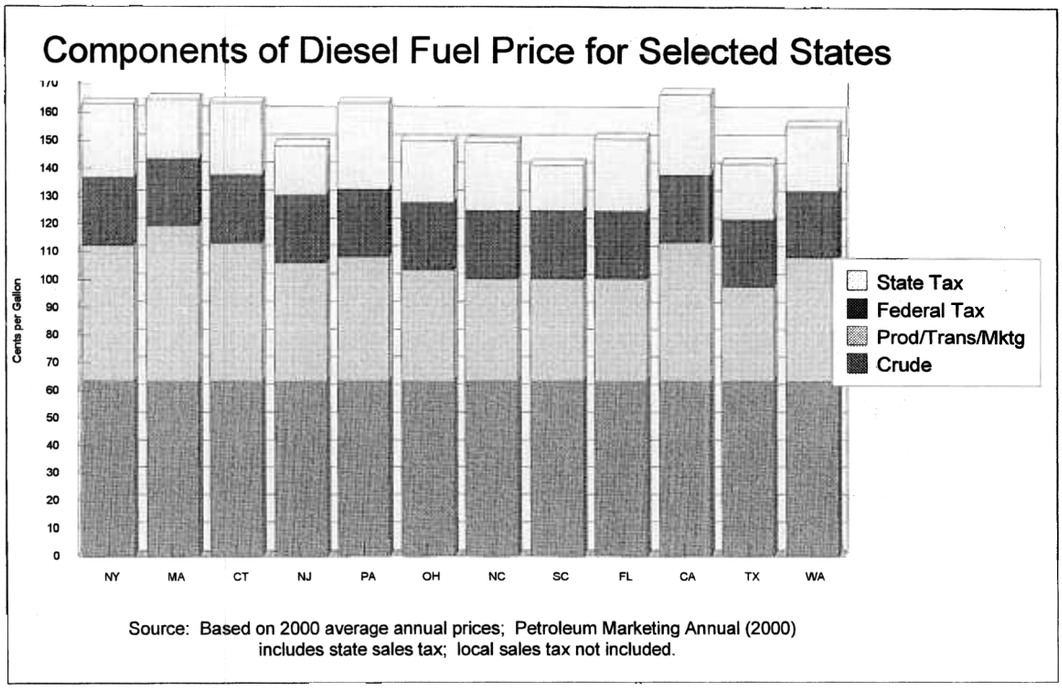
Gasoline prices vary from state to state largely as a result of differences in state tax policies and regional differences in costs of doing business. Refiner acquisition costs of crude oil are identical for all states because crude oil commodity prices are determined by world markets. Similarly, the federal gasoline tax of 18.4 cents per gallon is the same for all states. Most of the states studied, with the exception of Connecticut, New Jersey, and South Carolina, impose a combination of excise or other taxes on gasoline. The combined effect of these taxes on retail price is comparable to that of New York's excise tax and PBT. For example, New York's excise tax and PBT are 22 cents per gallon; similar state taxes in Massachusetts, Pennsylvania, and Ohio are 21, 26, and 22 cents, respectively. New York's average price appears to be higher than those of the other states studied largely due to the fact that it collects general State sales tax on gasoline. Of the study group states, New York and California are the only states to assess a sales tax on gasoline.

Diesel Fuel

As shown in Figure 10, New York's 2000 average price for diesel fuel was $1.63 per gallon (excluding local sales tax). This price was higher than that in many of the other

states studied. New York's average price appears to be higher largely because it collects general State sales tax on diesel fuel. States with the lowest diesel fuel prices are New Jersey, South Carolina, and Texas, which have relatively low state taxes as well as low refining, transportation, and distribution costs.

Figure 10



Source: Based on 2000 average annual prices; Petroleum Marketing Annual (2000) includes state sales tax; local sales tax not included.

FINDINGS AND CONCLUSIONS

Businesses need secure and reliable energy supplies that are reasonably priced to expand operations and grow in the State. Policies promoting greater energy supply certainty will lead to greater private sector investment in New York.

Low-cost power programs have been successful to date in retaining and expanding employment opportunities in the State. Developing joint State and utility economic development programs has been successful in supporting economic development.

Power for Jobs has been successful in retaining and creating jobs in New York while keeping energy costs down. There should be an additional authorization for another phase to provide for those customers whose initial allocations are expiring and for which there are few market alternatives.

Offering electricity discounts as a means of retaining or attracting jobs is an important economic development tool.

Efforts should continue to be made to forge State and private business partnerships to grow New York's economy in an environmentally-sound manner.

Energy prices need to be brought more in-line with other states to compete more effectively for economic opportunities.